

IN THE CLAIMS:

- 1-7. (canceled)
8. (Currently amended) A biosorbent composition comprising a support material comprising a an acid-treated ceramic or perlite and bearing an exterior coating of chitosan thereon.
9. (Previously presented) The biosorbent composition of claim 8 wherein said biosorbent composition is configured to remove heavy metals from wastewater upon contact of said biosorbent composition with the wastewater for a sufficient amount of time.
10. (Previously presented) The biosorbent composition of claim 8 wherein said support material comprises ceramic alumina, ceramic silica or both.
11. (Previously presented) The biosorbent composition of claim 10 wherein said support material is ceramic alumina, ceramic silica or a combination thereof.
12. (Previously presented) The biosorbent composition of claim 10 wherein said support material is perlite.
13. (Previously presented) The biosorbent composition of claim 8 wherein said exterior coating is exposed to a fluid environment.
14. (Previously presented) The biosorbent composition of claim 8 wherein said chitosan is in gel form.
15. (Currently amended) A process for treating an aqueous system containing a heavy metal, the process comprising adding to the aqueous system a biosorbent composition, the biosorbent composition comprising a support material comprising a an acid-treated ceramic or perlite and bearing an exterior coating of chitosan thereon.

16. (Previously presented) The process of claim 15 wherein said support material comprises a ceramic.

17. (Previously presented) The process of claim 15 wherein said support material is a ceramic.

18. (Previously presented) The process of claim 15 wherein the aqueous system is an aqueous waste stream.

19. (Previously presented) The process of claim 17 wherein the support material is ceramic alumina, ceramic silica, or a combination thereof.

20. (Canceled)

21. (Currently amended) A process for treating an aqueous system containing a heavy metal, the process comprising adding to the aqueous system, ~~said~~ the biosorbent composition of claim 11.

22. (Canceled)

23. (Previously presented) The biosorbent composition of claim 10 wherein said chitosan is in dried gel form.

24. (Previously presented) The process of claim 15 wherein said support material comprises perlite.

25. (Previously presented) The biosorbent composition of claim 8 wherein said chitosan is adhered to the support material by electrostatic forces, van der Waals forces and/or hydrogen bonding.

26. (Previously presented) A process for treating an aqueous system containing a heavy metal, the process comprising adding the biosorbent composition of claim 25 to the aqueous system.

27. (Previously presented) The biosorbent composition of claim 8 wherein the biosorbent composition consists essentially of a support material comprising a ceramic or perlite and bearing an exterior coating of chitosan thereon.

28. (Previously presented) A process for treating an aqueous system containing a heavy metal, the process comprising adding the biosorbent composition of claim 27 to the aqueous system.

29. (Previously presented) The biosorbent composition of claim 8, wherein the support material is ultrafine ceramic alumina.

30. (Currently amended) The biosorbent composition of claim 8, wherein said support material is ceramic alumina, and said exterior coating is derived from ~~acid-treated~~ chitosan gel.

31. (Previously presented) The biosorbent composition of claim 11, wherein the support material bears a double coating of chitosan.

32. (Previously presented) The biosorbent composition of claim 8, wherein the chitosan has an affinity for adsorption of cesium, thorium, lead, mercury, arsenic, chromium, copper, or nickel from wastewater.

33. (Previously presented) The biosorbent composition of claim 13 wherein the fluid environment is air or water containing a contaminant removable by exposure to the biosorbent composition.

34. (Previously presented) The biosorbent composition of claim 33 wherein the water is wastewater.

35. (Previously presented) The biosorbent composition of claim 35 wherein the contaminant is a heavy metal.

36. (Previously presented) The biosorbent composition of claim 14 wherein the fluid environment is air or water containing a contaminant removable by exposure to the biosorbent composition.

37. (Previously presented) The biosorbent composition of claim 36 wherein the water is wastewater.

38. (Previously presented) The biosorbent composition of claim 37 wherein the contaminant is a heavy metal.

39. (Previously presented) The process of claim 17 wherein said support material is ceramic alumina or ceramic silica, the aqueous system comprises an aqueous fluid and adding the biosorbent composition exposes the exterior coating to the aqueous fluid.

40. (Withdrawn) A method for preparation of the biosorbent composition of claim 8, comprising treating chitosan with acid to produce a gel, treating a ceramic or perlite with acid to produce the support material, and contacting the support material with the gel, thereby to form the biosorbent composition comprising an exterior chitosan coating on the support material.

41. (Withdrawn) The method of claim 41, further comprising a step wherein the biosorbent composition produced by the method of claim 40 is an intermediate composition and, after the formation of the intermediate composition, the intermediate composition is contacted with the gel to coat the intermediate composition with chitosan, thereby producing a

second biosorbent composition, the second biosorbent composition having an exterior chitosan coating thicker than the exterior chitosan coating of the intermediate composition.

42. (Withdrawn) The method of claim 40 wherein the ceramic or perlite is ceramic.

43. (Withdrawn) The method of claim 41 wherein the ceramic or perlite is ceramic.

44. (Withdrawn) The method of claim 42 wherein the ceramic is ceramic alumina.

45. (Withdrawn) The method of claim 43 wherein the ceramic is ceramic alumina.

46. (Withdrawn) The method of claim 42 wherein the ceramic is ceramic silica.

47. (Withdrawn) The method of claim 43 wherein the ceramic is ceramic silica.

48. (Withdrawn) The method of claim 42 wherein the ceramic is a combination of ceramic alumina and ceramic silica.

49. (Withdrawn) The method of claim 43 wherein the ceramic is a combination of ceramic alumina and ceramic silica.

50. (Withdrawn) The method of claim 40 wherein the ceramic or perlite is perlite.

51. (Withdrawn) The method of claim 41 wherein the ceramic or perlite is perlite.

52. (New) A biosorbent composition comprising a support material comprising a ceramic or perlite and bearing an exterior coating of chitosan thereon, wherein said support material is prepared by mixing the support material with an acid to form a mixture and filtering and washing the mixture to prepare a washed mixture.

53. (New) The biosorbent composition of claim 52 wherein said biosorbent composition is configured to remove heavy metals from water upon contact of said biosorbent composition with the wastewater for a sufficient amount of time.

54. (New) The biosorbent composition of claim 52 wherein said support material comprises ceramic alumina, ceramic silica or both.

55. (New) The biosorbent composition of claim 54 wherein said support material is ceramic alumina, ceramic silica or a combination thereof.

56. (New) The biosorbent composition of claim 54 wherein said support material is perlite.

57. (New) The biosorbent composition of claim 52 wherein said exterior coating is exposed to a fluid environment.

58. (New) The biosorbent composition of claim 52 wherein said chitosan is in gel form.